

REMARKS

Claims 58-65 are pending. Claims 1-57 are canceled.

§112 Rejection of the Claims

Claims 58 and 65 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner points to the fact that R4 is not defined in Formula II in Claim 58. Applicants have amended claims 58 to further clarify the claims. Support can be found, for example, in the disclosure at page 22, line 20 to page 23, line 11 and the disclosure at page 24, lines 1-8, specifying the biocidal quaternary ammonium groups in Formula I and in original claim 4 (as filed). It would be within the skill of one in the art use such a disclosure to determine the definition of R4 as used in Formula II. Specific examples of Formula II vinylic monomers, showing R4 as the C₁₋₄ alkyl can be found at page 25, line 24 to page 26, line 4.

The Examiner also rejects Claim 65 for missing a period at the end. Applicants have amended Claim 65 to correct this oversight. The rejections of Claims 58 and 65 under 35 U.S.C. § 112, second paragraph have been overcome and Applicants respectfully request withdrawal of the rejections.

§ 103 Rejection of the Claims

Claim 65 stands rejected under 35 U.S.C. § 103 as allegedly being obvious over U.S. Patent No. 4,451,635 ("Gould"), in view of U.S. Patent No. 3,931,319 ("Green") and U.S. Patent No. 4,110,286 ("Vandergaer"). Applicant respectfully traverses the rejection. The Examiner states that the combination provides polyurethanes able to terminate in Formula III when C=NRS or NH. Applicants note that the rejection is very limited in specifics, and the Applicants respectfully request that the Examiner provide a detailed presentation of the rejection of Claim 65.

Neither Gould, Green, Vandergaer, nor the combination thereof disclose that the quaternary ammonium group could be derived from a structure such as those structures recited in claim 65. The hydrophilic polyurethanes that are employed as the starting material in Gould are made from the reaction of: one or more diols; an organic polyisocyanate or a nitrile carbonate; and a polyfunctional lactone (Gould, column 1, lines 12-34). The hydrophilic polyurethane

would therefore be a polyurethane having a lactone group in the polymer backbone and providing a free (unreacted) hydroxyl group in the polymer backbone (Patent No. 4,156,066, column 1, lines 48-53 – note that this patent is cited to by Gould at column 1, lines 38-40). Such a polyurethane resin would not include a structure such as those recited in claim 65.

Furthermore, none of the reactants utilized in Gould include the structures of claim 65. The one or more diols discussed in Gould are limited to diethylene glycol and long-chain polyoxyalkylene diols (Gould, column 1, lines 15-19). Low molecular weight glycols are also generically discussed with diethylene glycol, dipropylene glycol, or aromatic glycols such as bisphenol A and 4,4'-sulfonyl diphenol being specifically mentioned (Gould, column 2, lines 18-24). All of the examples utilize a mixture of diethylene glycol and polyethylene glycol (Gould, column 4, line 61 – column 14, line 2). As shown here, none of the diols that are disclosed by Gould include structures as recited in claim 65. The isocyanates utilized in Gould would not be capable of providing, either once reacted with either the diol or the lactone or before reaction, a structure as recited in claim 65. The only other possible reactant that is listed in Gould as having a nitrogen in it is one of the possibilities for the lactone (i.e. where R_1 is $-\text{CH}_2\text{NH}_2$). Such a compound would also not provide a structure as recited in claim 65. Therefore, based on the polymer that is formed and the reactants that make the polymer, the structures recited in claim 65 can not be present in the polyurethane resin of Gould, and therefore they cannot be the basis for the quaternary ammonium as recited in claim 65.

As stated in a previous response, it is necessary to have an amine to form a quaternary ammonium group. There is not an amine within the polyurethane that is formed in Gould. The only way that an amine could be formed from the product of Gould is through hydrolysis of the urethane groups, i.e. degradation of the polymer just formed. However, degradation of the polyurethane just formed would not provide a structure as recited in claim 65; and such a modification would defeat the purpose of Gould. According to MPEP §§ 2143.01(V) and 2143.01(VI) motivation to modify a reference cannot be present if such a modification would render the reference unusable for its intended purpose or change the principle of its operation.

Furthermore, neither Gould, Green, Vandergaer, nor the combination thereof suggests that the quaternary ammonium group could be derived from such a group. Because there is no disclosure or suggestion regarding this element of claim 65, the currently pending claim is not

obvious in light of these references. Applicant therefore respectfully requests that this rejection be withdrawn.

Applicant also notes that there may be other reasons why claim 65 is not obvious in light of the cited references; Applicant does not concede such arguments by having not presented them herein.

Conclusion

Applicant also notes that there may be other arguments which were not presented herein, and Applicant does not concede those arguments by not having presented them herein. Applicant also does not necessarily agree with the correctness of statements made in the Office Action that were not rebutted herein.

In view of the foregoing amendments, Applicants respectfully request reconsideration and allowance of the claims as all rejections have been overcome.

Respectfully submitted,

May 12, 2008

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